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1. (Amended) An optical attenuator in the form of a single mode optical fiber comprising a core and having a refractive index at a center portion of said core higher than that of a peripheral portion of the core.

2. (Amended) The optical attenuator as claimed in Claim 1, wherein the distribution of refractive index of said core is selected from the group consisting of a graded-index type, parabolic shapes, triangular wave shapes, square wave shapes and trapezoidal wave shapes.

3. (Amended) An optical attenuator in the form of a single mode optical fiber comprising a core containing a dopant which attenuates transmitted light more when its wavelength is longer, said dopant being contained only in a dopant area limited to a center portion of the core, said core having a refractive index at the center portion greater than that of a peripheral portion of said core.

4. (Amended) The optical attenuator as claimed in Claim 3, having a distribution of refractive index of said dopant area in the form of a gradient selected from the group consisting of a graded-index type, parabolic shapes, triangular wave shapes, square wave shapes and trapezoidal wave shapes.

5. (Amended) An optical attenuator in the form of a single mode optical fiber comprising a core and containing, in a dopant area, dopant which attenuates transmitted light more when its wavelength is longer, wherein the dopant area is limited to a peripheral part of said core and having a refractive index at a center part of said core containing no dopant is greater than that of

the peripheral part of said core.

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6. (Amended) The optical attenuator as claimed in Claim 5, wherein the refractive index has a profile selected from the group consisting of a graded-index type, parabolic shapes, triangular wave shapes, square wave shapes and trapezoidal wave shapes.

7. (Amended) An optical attenuator in the form of a single mode optical fiber comprising a core and containing, in a dopant area, dopant which attenuates transmitted light more when its wavelength is shorter, wherein the dopant area is limited to a center part of said core and having a refractive index at the center part of said core greater than that of a peripheral part of said core.

8. (Amended) The optical attenuator as claimed in Claim 7, wherein the refractive index has a profile selected from the group consisting of a graded-index type, parabolic shapes, triangular wave shapes, square wave shapes and trapezoidal wave shapes.

9. (Amended) An optical attenuator in the form of a single mode optical fiber comprising a core and containing, in a dopant area, dopant which attenuates transmitted light more when its wavelength is longer, wherein the dopant area is limited to a peripheral part of the core and having a refractive index at the center part of said core greater than that of the peripheral part of said core.